UNITED STATES DISTRICT COURT FOR THE DISTRICT OF MASSACHUSETTS

United States of America Plaintiff -vs- Martin Gottesfeld Defendant	1:16-cr-10305-NMG

AFFIDAVIT

I, Jeffrey S. Kane, Ph.D., of Vista, in San Diego, California, MAKE OATH AND SAY THAT:

1. I am an Industrial/Organizational Psychologist (Ph.D., The University of Michigan, M.A., University of Minnesota) with extensive education and experience in the use of statistical methods and the design of research and evaluation projects. My education in statistics and quantitative methods includes three 3 years of full-time graduate studies in statistics, research design, and psychometrics at both the University of Minnesota and the University of Michigan. I have served for 23 years as a university professor, encompassing the rank of full professor of Industrial/Organizational Psychology at the California School of Professional Psychology in Los Angeles, and the rank of associate professor of Management at the University of Massachusetts, the University of North Carolina at Greensboro, the University of Minnesota, Texas A&M University, and the Chinese University of Hong Kong. I have held high level research positions in county, state, and federal government, and have consulted extensively with private sector organizations for over 40 years.

I was the founder and editor of *Human Resource Management Review*, a major journal devoted to conceptual contributions to the field of Human Resource Management. I have had articles published in some of the leading professional journals, including *Personnel Psychology*, *Psychological Bulletin*, *Academy of Management Journal*, *Journal of*

Management, and *Human Relations*, and I am the author of numerous book chapters. I have furnished industrial/organizational psychology consulting services to numerous public and private sector organizations in the areas performance appraisal, selection, compensation, and HR software development, and have served as an expert witness in legal cases in which I was called upon to provide extensive statistical analysis and expert testimony related to employment discrimination, wage & hour law, staffing issues, wrongful termination, and compensation.

Since 2006 I have been providing statistical analysis, research design, mathematical modeling, management science, and litigation support/expert witness services to clients worldwide through my firm, Professional Statistical Services. During this time I have conducted the design and/or statistical analysis for hundreds of research studies worldwide in fields ranging from psychology, medical science, biology, engineering, operations research, linguistics, finance, and economics. Many of these studies have been published in major journals, accepted as dissertations, or implemented to improve the operations of businesses.

My Curriculum Vitae is attached to this affidavit as Appendix 1.

2. I have reviewed Mr. Martin Gottesfeld's "Expedited Motion for Release Pending Appeal" (Case 1:16-cr-10305-NMG Document 441 Filed 08/13/21) in the case of *United States of America v. Martin Gottesfeld* , 18-1669, 19-1043, 19-1107 (1st Cir.). Exhibit A attached to this motion contains several probability calculations that I have been asked to review for their accuracy. These are presented in paragraphs 19, 21, 22, 23, and 24 of this exhibit. In what follows, I state my conclusions about the accuracy of these calculations. My calculations to ascertain the accuracy of these calculations are presented in the Excel workbook attached to this affidavit as Appendix 2.

3. In paragraph 19 of Mr. Gottesfeld's Exhibit A he writes, "There were 21,600 possible combinations of MJ designations for the six (6) above post-1993 BCH cases, i.e. excluding *Nadal-Ginard*, the odds of MJs Bowler and Sorokin splitting them all, as they in fact did, are 1:1,350 or 0.074%. This is less likely than flipping a coin ten (10) times and getting only heads." Using his table of MJ designations for the post-1993 BCH cases, I recomputed all of the results referenced in the statement quoted, with the following findings:

A. I confirm the accuracy of there being 21,600 possible combinations of MJ designations for the 6 post-1993 cases;

B. My calculations found that there were 14 feasible combinations of Bowler and Sirotkin being designated for the 6 cases, which resulted in a probability of .000648. This is slightly lower than Mr. Gottesfeld's figure of .00074. However, this does not undermine, but rather reinforces, his conclusion that, "This is less likely than flipping a coin ten (10) times and getting only heads," the probability of the latter being .000977.

4. In paragraph 21 of Mr. Gottesfeld's Exhibit A he writes, "…the odds of MJs Bowler and Sorokin splitting all or all but one of the seven (7) BCH cases, as they have done, remain unlikely: 2:675 or 0.2963%." Using his table of MJ designations for the seven BCH cases, I recomputed the results referenced in the statement quoted. My calculations found that there were 31 feasible combinations of Bowler and Sirotkin being designated for the 7 cases out of 108,000 possible combinations, which resulted in a probability of .000287. This was a substantially lower probability than Mr. Gottesfeld reported. However, this does not undermine, but rather reinforces, his conclusion that the likelihood of MJs Bowler and Sirotkin splitting all or all but one of the 7 cases is lower than that of "…flipping a coin eight times and getting only heads (.00391)." In fact, the probability I obtained is lower than that of getting only heads in 11 consecutive coin flips.

5. In paragraph 22 of Mr. Gottesfeld's Exhibit A he writes, "Excluding *Nadal-Ginard*, the odds of MJ Bowler and any one other MJs splitting all of the latest six BCH cases, as happened, are 1:180 or 0.556%." Using the six entries for the post-1993 BCH cases in his table of MJ designations, I recomputed the result offered in the statement quoted. My calculations found that there were 120 feasible combinations of Bowler and one other MJ among the total of 21,600 possible combinations of MJs for the six cases. This constitutes a probability of .00556, which is identical to the result reported by Mr. Gottesfeld. Therefore, I confirm the result he reported.

6. In paragraph 23 of Mr. Gottesfeld's Exhibit A he writes, "…the odds …of MJ Bowler and any one other MJ splitting all or all but one of the seven (7) BCH cases, i.e. including Nadal-Ginard, [are]: 1,159:54,000 or 2.1462962% or about 21.5 out of 1,000." Using his table

of MJ designations for the seven BCH cases, I recomputed the results referenced in the statement quoted. I interpreted the combinations to be selected to consist of all combinations of Bowler designations plus MJs who could were available for assignment for at least N-1 of the remaining cases not assigned to Bowler. This allowed up to one of the 7 cases not to be assigned in considering whether a judge could be part of a valid combination with Bowler. This was my best interpretation of the Mr. Gottesfeld's specification for this result. My calculations found 420 feasible combinations meeting my interpretation of the specification, resulting in a probability of .00422 (420/108,000). This probability was less than 1/5 the level reported by Mr. Gottesfeld. However, once again, my result does not undermine, but rather reinforces, his conclusion that the probability of such combinations was lower than "… the likelihood of flipping a coin five (5) times and receiving all heads [.03125]." In fact, the likelihood of such combinations of MJ Bowler being involved in some combination with other available MJs in these 7 cases (.00422) was lower than the likelihood of getting all heads in 7 consecutive coin flips (.00781).

7. In paragraph 24 of Mr. Gottesfeld's Exhibit A he writes, "…the odds of randomly designating MJ Bowler to at least three (3) of the latest six (6) BCH cases are 7:80 or 8.75%." Using his table of MJ designations for the seven BCH cases, I recomputed the results referenced in the statement quoted. Given that the probabilities of being selected for assignment to a case differs for each of the 6 cases, and that there are 20 combinations of 3 cases to which MJ Bowler could have been assigned out of the 6 most recent BCH cases under consideration, the probabilities of the combinations of 3 extend over a range. This range runs from .00466 to .0100. The best single estimate to use to characterize this range, since the distribution is somewhat positively skewed is the median, which is .00683. This probability is less than 1/12 the size of Mr. Gottesfeld's estimate. It could be that he included the occurrences of 4, 5, and 6 designations of MJ Bowler in his estimate, but this would not accord with the fact that MJ Bowler was designated for exactly 3 of the 6 cases and it is that likelihood which is at issue in his exhibit. Once again, my result does not undermine but rather reinforces his conclusion in this paragraph of his exhibit that, "…it is reasonable to question the randomness of that result." In fact, such a result is much farther from random than his result conveyed. In terms of coin tossing, the designation of MJ Bowler for 3 of these 6 cases had a lower likelihood of occurring at random than the likelihood of getting all heads in 7

consecutive coin flips (.00781).

8. Although my results deviated to a degree from those of Mr. Gottesfeld in the majority of instances that I examined, these deviations of my calculations from his in some cases were modest and in all cases were in the direction of indicating that the case assignments for MJs Bowler and Sirotkin were even less likely than Mr. Gottesfeld had calculated. In several cases, these deviations were substantial (viz., the probability assuming random selection of MJs Bowler and Sorokin splitting all or all but one of the seven (7) BCH cases under consideration, the probability assuming random selection of MJ Bowler and any one other MJ splitting all or all but one of the seven (7) BCH cases under consideration, and the probability assuming random selection of three (3) of the latest six (6) BCH cases under consideration having been assigned to MJ Bowler). These large deviations indicate that Mr. Gottesfeld's results in these latter cases substantially overstated the likelihoods of the patterns of MJ case assignments referenced. Collectively, in my judgment it can be concluded that the case assignments of these two MJs to the seven cases under consideration had been subjected to such distinctly non-random influences as to justify the inference of intentionality.

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF SAN DIEGO

Subscribed and sworn to (or affirmed) before me on this 24th day of August, 2021, by Jeffrey S. Kane, Ph.D., who proved to me on the basis of satisfactory evidence to be the person who appeared before me.

Signature _____

(Seal)

KEVIN EAMES
COMM. #2320656
Notary Public - California
San Diego County
My Comm. Expires Feb. 7, 2024

NOTARY PUBLIC
My Commission expires:
Feb. 7, 2024

Jeffrey S. Kane
(Signature)

Jeffrey S. Kane, Ph.D.

APPENDIX 1

Curriculum Vitae of Jeffrey S. Kane, Ph.D.

Curriculum Vitae

Jeffrey S. Kane

1979 Vineyard Avenue, Vista, CA 92081

PHONE: (626) 200-6873 **Email:** Orgdoctor@earthlink.net

EDUCATION:

B.S. Boston University, Public Relations and Communications

M.A. University of Minnesota, Industrial Relations

Ph.D. The University of Michigan, Organizational Psychology

PROFESSIONAL SOCIETIES:

American Psychological Association
Academy of Management
Society for Industrial/Organizational Psychology
Society for Judgment and Decision-making

EMPLOYMENT HISTORY:

2006 – Present Statistical Consultant: Through my firm, *Professional Statistical Services*, providing services in the areas of statistical analysis, research design, statistical modeling, survey research and preparation of reports on findings, and litigation support and expert witness services to a wide range of clients, including researchers in many different fields, business organizations, attorneys, and dissertation students.

2007 - 2008 Principal Consultant, Litigation Support, Biddle Consulting Group. Conducting high stakes statistical analyses to establish the utilization rates of various protected groups and the impact of human resource decisions on such groups; developing specialized software to conduct various statistical procedures relevant to utilization and impact analyses.

2006 – 2007 Human Resource Analyst IV, Los Angeles County, Dept. of Human Resources, Test Research Unit. Developing and validating selection systems for all occupational types and levels within the L.A. County government; headed very high stakes project to revamp the county's entry-level firefighter selection system; conducting advanced statistical analysis; automating human resource analysis systems; developing strategies for coping with anticipated human resource management challenges.

1982 - Present Consultant in Human Resource Management: Providing technical counsel and hands-on assistance in the design, development, implementation, and

evaluation of HRM systems to public and private sector organizations; specializing in performance appraisal and management, selection systems, program and system evaluation, compensation systems, organizational development and change, survey research, and serving as an expert witness services in discrimination cases.

2000 - 2005 Full Professor, Organizational Psychology, Alliant International University (formerly: California School of Professional Psychology): Teaching doctoral students in industrial/organizational psychology, supervising dissertations and serving as a dissertation committee member, conducting research.

Prior to 2000

Academic Positions:

Served as an associate and full professor in Schools of Business at various universities for 23 years; taught undergraduate and graduate courses in human resource management, organizational behavior, research design, and statistics; conducted research in industrial/ organizational psychology, human resource management, and judgment and decision-making; wrote articles for publication.

Non-Academic Positions:

Chief (GS-14), Performance Appraisal Research and Evaluation Branch, U. S. Office of Personnel Management, Washington, D. C.: Proposed, obtained funding for, and implemented a research program in performance appraisal; developed and presented training programs on performance appraisal system design and development; developed technical papers on new approaches to appraisal; organized funding and served as co-project manager for a grant to conduct a national conference on performance appraisal; developed a comprehensive framework for evaluating the effectiveness of appraisal systems; counseled federal agencies and state and local governments on their appraisal problems.

Research Scientist, Advanced Research Resources Organization, Bethesda, MD: Designed new methods of performance appraisal and developed proposals to obtain funding for their assessment; conducted program evaluation, selection research, and survey research; conducted statistical analysis and computer programming.

Chief of Personnel Research, Vermont Dept. of Personnel, Montpelier, VT: Established and headed a personnel research section with a staff of four; obtained and administered a federal-state matching grant under the Intergovernmental Personnel Act to fund the activities of the section; developed and validated selection procedures for the state's largest job classifications, developed performance appraisal systems, evaluated management training programs, and carried out attitude surveys.

CONSULTING AND TECHNICAL ASSISTANCE ACTIVITIES:

I have provided consulting services to public and private sector organizations too numerous to list in the areas of statistical analysis, selection system development and validation, performance appraisal system development, employee surveys, compensation analysis, and decision support system development. I have also worked as an expert witness on numerous cases involving such issues as racial discrimination in selection and job assignment, unfair termination, and compliance with labor laws.

RELATED PROFESSIONAL EXPERIENCE:

Founder and Editor of Human Resource Management Review, a refereed journal that began publication in February, 1991 by JAI Press, Greenwich, CT.

CEO, Performance Sciences International: Developing web-based software for the assessment and management of work performance; developing business plan; marketing of products and services; directing activities of staff.

CEO, Professional Statistical Services: Providing statistical consulting services to individuals and organizations over the full range of statistical applications, including adverse impact analysis, psychological research, medical research, management systems analysis, financial analysis, various applications of survival analysis, survey research, and structural equation modeling. In addition, I am frequently called upon to learn new, cutting edge statistical procedures in order to apply them for clients. I am a highly skilled programmer and regularly use VBA in Excel to manipulate data in one or more worksheets in order to produce data sets amenable to analysis. In addition, I have created numerous statistical tools in the form of Excel and SPSS macros that are used by many statisticians.

Software Engineer: developed numerous software systems both for clients and for direct sale to the public. Among my products are the Performance Distribution Assessment system and Monte Carlo/PC (see below).

Researcher and Writer: Conducted numerous research studies in the field of industrial/organizational psychology; widely published in professional journals and book chapters; highly competent statistician, writer, and editor.

SELECTED PUBLICATIONS:

Kane, J. S. & Lawler, E. E. III. (1978). Methods of peer assessment. *Psychological Bulletin*, *85*(3), 555-586.

Kane, J. S. & Lawler, E. E. III. (1979). Performance appraisal effectiveness: Its assessment and determinants. In B. Staw (Ed.), *Research in organizational behavior, vol. 1*. Greenwich, CT: JAI Press.

Kane, J. S. (1988). Minimizing the impact of judgmental fallibility on real world decision-making, with some illustrative applications in human resource management. In Cardy, R.L., Puffer, S.M. & Newman, J.M. (Eds.) *Advances in Information Processing in*

Organizations, Volume 3 (pp. 25-37). Greenwich, CT: JAI Press.

Austin, J. T., Villanova, P., Kane, J. S., & Bernardin, H. J. (1991). Construct validation of performance measures: Definitional issues, development, and evaluation of indicators. In G. H. Ferris & K. Rowland (Eds.), *Research in Personnel and Human Resource Management, Vol. 9* (pp. 159-233).

Kane, J. S. & Kane, K. F. (1992). TQM-compatible performance appraisal: An American cultural imperative. *Journal of Management Systems, 4*(2).

Kane, J. S. & Kane, K. F. (1993). Performance appraisal: The design and use of effective and defensible systems. In H. J. Bernardin (Ed.), *Human resource management: An experiential approach*. New York: McGraw-Hill.

Kane, J. S. (1994). A model of volitional rating error. *Human Resource Management Review, 4*(3), 283-310.

Kane, J. S., Bernardin, H. J., Villanova, P., & Peyrefitte, J. (1995). The stability of rater leniency: Three studies. *Academy of Management Journal, 38*(4), 1036-1051.

Bernardin, H. J., Kane, J. S., Ross, S., Spina, J., & Johnson, D. M. (1996). Performance appraisal design, development, and implementation. In G. R. Ferris (Ed.), *Handbook of human resource management*. Chicago, IL: Blackwell.

Kane, J. S. (1996). The conceptualization and representation of total performance effectiveness. *Human Resource Management Review, 6*(2), 123-145.

Kane, J. S. & Freeman, K. A. (1997). A theory of equitable performance standards. *Journal of Management, 23*(1), 37-58.

Kane, J. S. (1997). Assessment of the situational and individual components of performance. *Human Performance, 10*(3), 193-226.

Bernardin, H. J., Hagan, C. M., Kane, J. S., & Villanova, P. (1998). Prescriptions for effective performance management: Precision in measurement with a focus on customers and situational constraints. In J. Smither (Ed.), *Performance Appraisal: State-of-the-Art in Practice*, San Francisco: Jossey-Bass.

Kane, J. S. (2000). Accuracy and its determinants in distributional assessment. *Human Performance, 13*(1), 47-85.

Kane, J. S. & Woehr, D. J. (2006). Performance measurement reconsidered: An examination of frequency estimation as a basis for assessment. In D. J. Woehr, W. Bennett, & C. Vance (Eds.), *Performance measurement: Current perspectives and future challenges*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Manuscripts (Submitted for Publication):

Kane, J. S. *Beyond ANCOVA - Achieving Complete Exclusion of Covariate Variance in the Comparison of Group Means*. (submitted for publication)

Kane, J. S. & Papini, J. S.. *Function-based pay: A new approach to establishing pay structures*. (submitted for publication)

Kane, J. S. & Bernardin, H. J. *Policy adherence and the psychology of agents*. (submitted for publication)

Kane, J. S. *Removing redundant variance from the components of composite scores*. (submitted for publication)

Kane, J. S. *The multilateral assessment of organizational effectiveness*. (submitted for publication)

PROFESSIONAL SKILLS:

Litigation support analysis and report preparation, giving testimony at deposition and trial in cases relating to all aspects of Human Resource Management, employment discrimination, wage and hour law, and wrongful termination; directing research programs and projects; designing and developing performance management systems, selection systems, and compensation systems; integrating human resource management systems with corporate strategy; organizational change and development; program evaluation; survey research; psychometrics; judgment & decision-making analysis and development of decision-support systems; the highest levels of statistical analysis, including programming customized analyses and standardized software packages (e.g., SPSS, Stata, Minitab, Matlab); VBA programming; software engineering, including Visual Basic, Visual Basic.Net, database programming, SQL Server, and custom website development using HTML, VBScript, Javascript, and ASP.

PRODUCTS (Selected, over last 20 years):

Performance Distribution Assessment System Completed: August 15, 2004

A revolutionary web-based system for performance appraisal and management which just received (July 2010) the first U.S. Patent ever awarded for a computer-/web-based system for assessing the work performance of employees at all organizational levels. For further details, go to: www.performance-sciences.com.

Select-A-Sample Completed: April 30, 2002

A system for determining sample-size based on either sampling error or power considerations. Following determination of sample size, the program will then select the requisite size sample from a population database, with or without replacement, and generate a file of sample members.

Monte Carlo/PC Completed: October 1, 2011

A system for generating random data sets with any number of variables having a

specified multivariate structure. Data sets may be generated as either populations having an exact multivariate structure or as samples with sampling error. Distributional parameters can also be specified.

Tetrachoric Correlation Calculator Completed: September 10, 2012

An Excel macro for computing the tetrachoric correlation between two dichotomized variables.

Random Sampling Without Duplication Completed: September 5, 2012

An Excel macro for selecting a random sample from a population of cases entered by the user without duplication of any selected cases.

Anderson-Darling Normality Test Calculator Completed: September 6, 2012

An Excel macro for testing the distribution of a variable's data for the significance of its departure from normality. This test is more sensitive to such departures, and is less sensitive to the influence of sample size, than alternative measures, and is not available in most statistical analysis systems.

Variance Homogeneity Tests & Corrected t and F tests From Summary Data Completed: December 28, 2012

An Excel macro that accepts the input of summary data for groups (i.e., Ns, means, and standard deviations or variances) and produces the appropriate variance homogeneity test and the uncorrected and corrected t or F (i.e., one-way fixed factor ANOVA) tests and p-values.

Correlation and Slope Comparator Completed: May 29, 2013

An Excel macro that computes all the tests of the differences between correlations and regression coefficients within each of the categories of independent and dependent, overlapping and non-overlapping, and their combinations.

Breslow-Day & Tarone Homogeneity of Odds Ratio Tests Completed: May 18, 2014

An Excel macro for testing the significance of the difference(s) between two or more 2x2 contingency tables. These tests are also used to test whether the tables for a set of strata meet the fundamental assumption of the Cochran–Mantel–Haenszel test of whether the common odds ratio of the strata being compared differs from 1.0. These tests have previously been unavailable in any statistical software system other than those that are too expensive or complex to be accessible for most users.

ANCOVRES Calculator **Completed August 15, 2016**

A system implemented through VBA code in Excel for computing ANCOVRES for an analysis consisting of 1 dependent variable (DV), 1 independent variable (IV), and as many covariates (categorical or continuous) as desired. ANCOVRES addresses the crippling defect of ANCOVA of requiring homogeneity in the DV-on-covariate regression slopes between all levels of the IV. This condition is rarely met with real world data. Even when regression slopes do not differ to significant degrees between IV levels, using a single regression to remove covariate variance from the DV often can seriously distort the conclusion about differences between IV levels on the adjusted DV. ANCOVRES resolves this problem by removing covariate variance from the DV separately for each IV level using the regression of the DV on the covariate within the respective IV level.

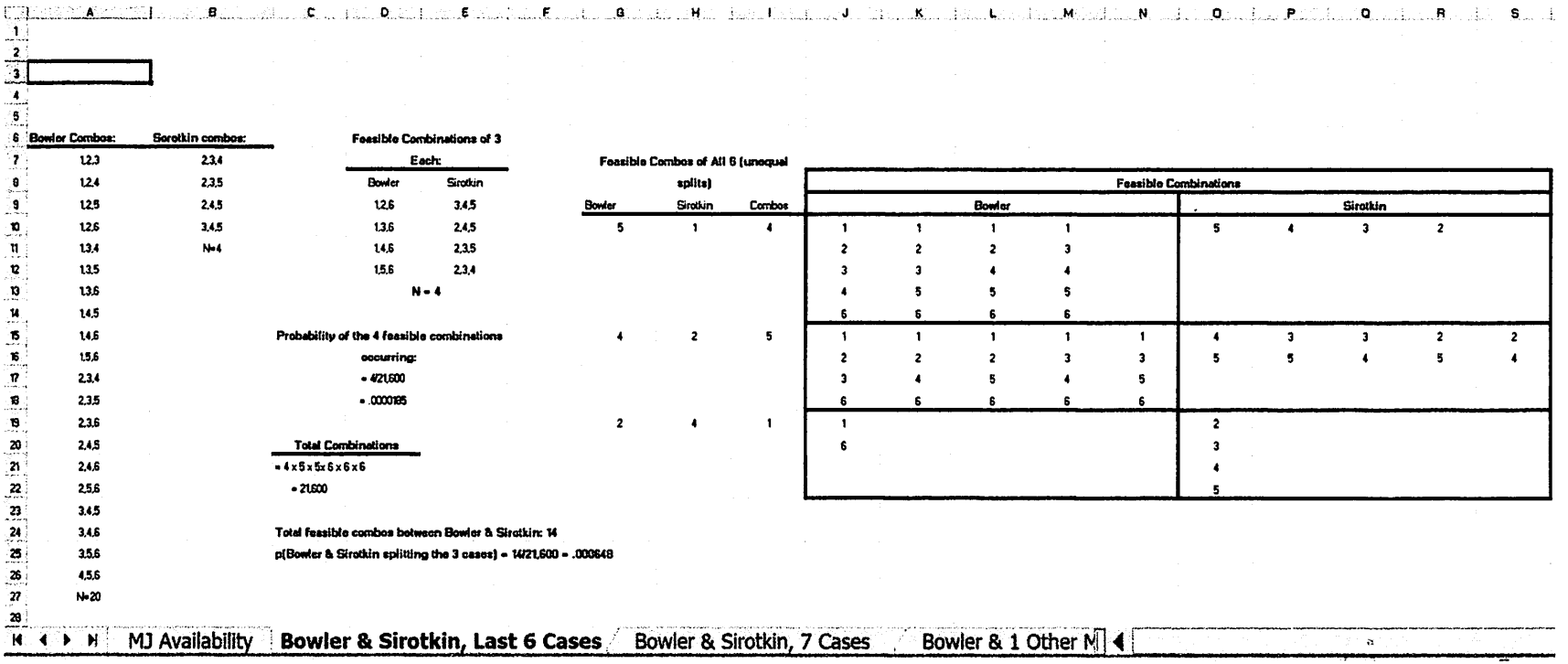
Appendix 2

Replications of Martin Gottesfeld Calculations

			Available Magistrate Judges											
Case #	Case	Alexander	Collings	Cohen	Bowler	Karol	Dein	Sorokin	Boal	Hennessy	Kelly	Cabell	Total
7	BCH v. Nadal-Ginard	X	X	X	X	X							5
1	Davidson v. Cao	X	X	X	X								4
2	Darville v. Children's Hospital Corp.		X		X		X	X	X				5
3	Felder v. Ponder		X		X		X	X	X				5
4	Robinson v. BCH		X		X		X	X	X	X			6
5	DeGrandis v. BCH		X		X		X	X	X	X			6
6	Cabi, et al. v. BCH				X		X		X	X	X	X	6

Combos of last 6 =	21,600
Combos of all 7 =	108,000

MJ Availability | Bowler & Sirotkin, Last 6 Cases | Bowler & Sirotkin, 7 Cases | Bowler & 1 Other M



Bowler Combos:	Sirotkin combos:
1,2,3	2,3,4
1,2,4	2,3,5
1,2,5	2,4,5
1,2,6	3,4,5
1,3,4	N=4
1,3,5	
1,3,6	
1,4,5	
1,4,6	
1,5,6	
2,3,4	
2,3,5	
2,3,6	
2,4,5	
2,4,6	
2,5,6	
3,4,5	
3,4,6	
3,5,6	
4,5,6	
N=20	

Feasible Combinations of 3 Each:

Bowler	Sirotkin
1,2,6	3,4,5
1,3,6	2,4,5
1,4,6	2,3,5
1,5,6	2,3,4

N = 4

Probability of the 4 feasible combinations occurring:

= 4/21,600

= .000185

Total Combinations

= 4 x 5 x 5 x 6 x 6 x 6

= 21,600

Total feasible combos between Bowler & Sirotkin: 14

p(Bowler & Sirotkin splitting the 3 cases) = 14/21,600 = .000648

Feasible Combos of All 6 (unequal splits)

Bowler	Sirotkin	Combos
5	1	4
4	2	5
2	4	1

Feasible Combinations										
Bowler						Sirotkin				
1	1	1	1			5	4	3	2	
2	2	2	3							
3	3	4	4							
4	5	5	5							
6	6	6	6							
1	1	1	1	1		4	3	3	2	2
2	2	2	3	3		5	5	4	5	4
3	4	5	4	5						
6	6	6	6	6						
1						2				
6						3				
						4				
						5				

Combinations of 6 out of 7, 3 Each (equal splits):

Bowler	Sirotkin
7,1,2	3,4,5
7,1,3	2,4,5
7,1,4	2,3,5
7,1,5	2,3,4
7,1,6	2,3,4
7,1,6	2,3,5
7,1,6	2,4,5
7,1,6	3,4,5
7,2,3	
7,2,4	
7,2,5	
7,2,6	3,4,5
7,3,4	
7,3,5	
7,3,6	2,4,5
7,4,5	
7,4,6	2,3,5
7,5,6	2,3,4
1,2,3	
1,2,4	
1,2,5	
1,2,6	3,4,5
1,3,4	
1,3,5	
1,3,6	2,4,5
1,4,5	
1,4,6	2,3,5
1,5,6	2,3,4
2,3,4	
2,3,5	Total = 16
2,3,6	
2,4,5	
2,4,6	
2,5,6	
3,4,5	

Feasible Combos of All 7 (unequal splits)

Bowler	Sirotkin	Combos
7	0	0
6	1	4
5	2	6
4	3	4
3	4	1
	Total =	15

Grand Total = 31

p = 31/108,000 = .000287

Feasible Combinations

Bowler						Sirotkin					
Exclude											
7	7	7	7			5	4	3	2		
1	1	1	1								
6	6	6	6								
2	2	2	3								
3	3	4	4								
4	5	5	5								
7	7	7	7	7	7	4	3	3	2	2	2
1	1	1	1	1	1	5	5	4	5	4	3
6	6	6	6	6	6						
2	2	2	3	3	4						
3	4	5	4	5	5						
7	7	7	7			3	2	2	2		
1	1	1	1			4	4	3	3		
2	3	4	5			5	5	5	4		
6	6	6	6								
7						2					
1						3					
6						4					
						5					

Total Combinations:

= 5 x 4 x 5 x 5 x 6 x 6 x 6

= 108,000

Part 1:

Number of Bowler + 1 other MJ Combos, Last 6 Cases

Bowler	Other MJ	Combos
5	1	26
4	2	39
3	3	36
2	4	16
1	5	3
	total =	120

p = 120/21,600 = .00556

			Available Magistrate Judges										
Case #	Case	Alexander	Collings	Cohen	Bowler	Karol	Dein	Sorokin	Boal	Hennessy	Kelly	Cabell
1	Davidson v. Cao	X	X	X	X							
2	Darville v. Children's Hospital		X		X		X	X	X			
3	Felder v. Ponder		X		X		X	X	X			
4	Robinson v. BCH		X		X		X	X	X	X		
5	DeGrandis v. BCH		X		X		X	X	X	X		
6	Cabi, et al. v. BCH				X		X		X	X	X	X

Bowler & Sirotkin, 7 Cases | **Bowler & 1 Other MJ, last 6** | Bowler & 1 other MJ, all 7 | p(Bowler

Part 2:

	A	B	C	D	E	F	G	H	I	J	K	L
22												
23		**Counts are number of**	C(5)	Count	C(4)	Count	C(3)	Count	C(2)	Count	C(1)	Count
24		**MJs who could fill all the**	12345	5	1234	3	123	3	12	2	1	2
25		**other cases remaining from**	12346	5	1235	3	124	2	13	2	2	0
26		**the number assigned to**	12356	5	1236	5	125	2	14	2	3	0
27		**Bowler.**	12456	4	1245	2	126	4	15	2	4	0
28			13456	4	1246	4	134	2	16	4	5	0
29			23456	3	1256	4	135	2	23	0	6	1
30			**total =**	**26**	1345	2	136	4	24	0	**total =**	**3**
31					1346	4	145	2	25	0		
32					1356	4	146	4	26	1		
33					1456	4	156	4	34	0		
34					2345	0	234	0	35	0		
35					2346	1	235	0	36	1		
36					2356	1	236	1	45	0		
37					2456	1	245	0	46	1		
38					3456	1	246	1	56	1		
39					**total =**	**39**	256	1	**total =**	**16**		
40							345	1				
41							346	1				
42							356	1				
43							456	1				
44							**total =**	**36**				
45												
46												

Bowler & Sirotkin, 7 Cases | **Bowler & 1 Other MJ, last 6** | Bowler & 1 other MJ, all 7 | p(Bowler

Part 1:

	A	B	C	D	E	F	G	H	I	J	K	L	M
1				Number of Bowler + 1 other									
2				MJ Combos, all 7 cases, 1									
3				Bowler	Other MJ	Combos							
4				6	1	30							
5				5	2	129							
6				4	3	142							
7				3	4	100							
8				2	5	46							
9				1	6	9							
10					total =	456							
11													
12				p = 456/108,000 = .00422 (vs. .00215 reported by Gottesfeld)									
13													
14	Case #	Case	Alexander	Collings	Cohen	Bowler	Karol	Dein	Sorokin	Boal	Hennessy	Kelly	Cabell
15	7	BCH v. Nadal-Ginard	X	X	X	X	X						
16	1	Davidson v. Cao	X	X	X	X							
17	2	Darville v. Children's		X		X		X	X	X			
18	3	Felder v. Ponder		X		X		X	X	X			
19	4	Robinson v. BCH		X		X		X	X	X	X		
20	5	DeGrandis v. BCH		X		X		X	X	X	X		
21	6	Cabi, et al. v. BCH				X		X		X	X	X	X

Bowler & 1 Other MJ, last 6 | **Bowler & 1 other MJ, all 7** | p(Bowler selected 3x)

Part 2:

Counts are number of MJs who could fill all the other cases remaining from the cases not assigned to Bowler, 7 with a leeway of 1. (MJ counted if can cover all remaining or all remaining minus 1).

C(6)	Count	C(5)	Count	C(4)	Count	C(3)	Count	C(2)	Count	C(1)	Count
712345	5	71234	7	7123	5	712	5	71	4	1	1
712346	5	71235	7	7124	5	713	5	72	3	2	1
712356	5	71236	5	7125	5	714	4	73	3	3	1
712456	4	71245	7	7126	5	715	4	74	3	4	1
713456	4	71246	5	7134	5	716	4	75	3	5	1
723456	3	71256	5	7135	5	723	3	76	4	6	1
123456	4	71345	7	7136	5	724	3	12	3	7	3
Total =	**30**	71346	5	7145	4	725	3	13	3	**Total =**	**9**
		71356	5	7146	4	726	4	14	3		
		71456	4	7156	4	734	3	15	3		
		72345	3	7234	4	735	3	16	4		
		72346	7	7235	4	736	4	23	1		
		72356	7	7236	5	745	3	24	1		
		72456	6	7245	2	746	4	25	1		
		73456	6	7246	5	756	4	26	1		
		12345	9	7256	4	123	3	34	1		
		12346	8	7345	3	124	3	35	1		
		12356	8	7346	4	125	3	36	1		
		12456	7	7356	4	126	4	45	1		
		13456	7	7456	4	134	3	46	1		
		23456	4	1234	5	135	3	56	1		
		Total =	**129**	1235	4	136	4	**Total =**	**46**		
				1236	5	145	3				
				1245	3	146	4				
				1246	4	156	4				
				1256	4	234	1				
				1345	3	235	1				
				1346	4	236	1				
				1356	4	245	1				
				1456	5	246	1				
				2345	3	256	1				
				2346	3	345	1				
				2356	3	346	1				
				2456	3	356	1				
				3456	3	456	1				
				Total =	**142**	**Total =**	**100**				

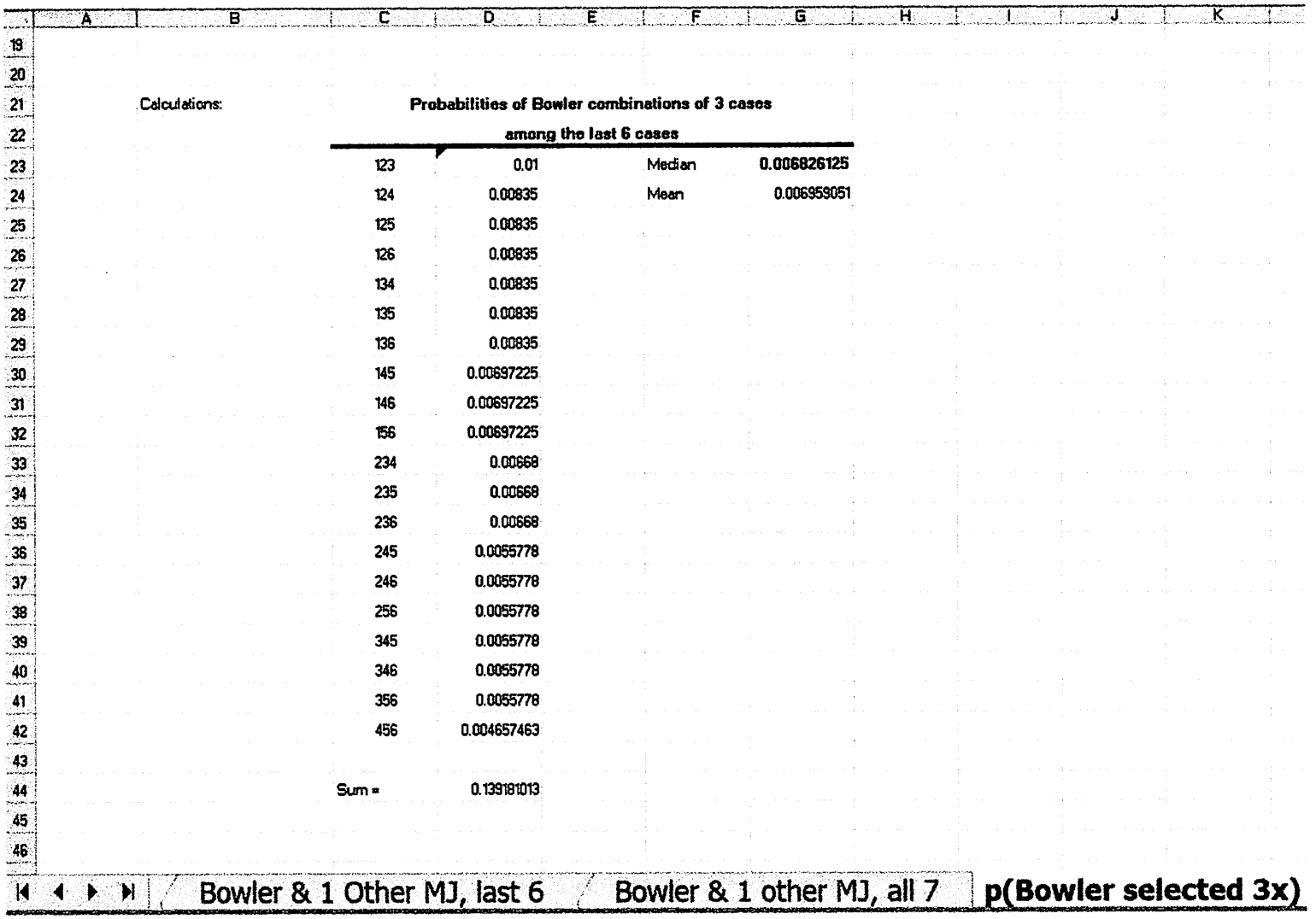
Bowler & 1 Other MJ, last 6 | **Bowler & 1 other MJ, all 7** | p(Bowler sele

Part 1:

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	**Case #**	**Case**	**Alexander**	**Collings**	**Cohen**	**Bowler**	**Karol**	**Dein**	**Sorokin**	**Boal**	**Hennessy**	**Kelly**	**Cabell**
2	7	BCH v. Nadal-Ginard	X	X	X	X	X						
3	1	Davidson v. Cao	X	X	X	X							
4	2	Darville v. Children's		X		X		X	X	X			
5	3	Felder v. Ponder		X		X		X	X	X			
6	4	Robinson v. BCH		X		X		X	X	X	X		
7	5	DeGrandis v. BCH		X		X		X	X	X	X		
8	6	Cabi, et al. v. BCH				X		X		X	X	X	X
9													
10				Probability of Bowler selected 3 times									
11				**among last 6 cases**									
12			Case #	p(Bowler)	Low	High	Median						
13			1	0.250	0.004657	0.01	**0.00683**		**(vs. .00875 reported by Gottesfeld)**				
14			2	0.200									
15			3	0.200									
16			4	0.167									
17			5	0.167									
18			6	0.167									
19													

Bowler & 1 Other MJ, last 6 | Bowler & 1 other MJ, all 7 | **p(Bowler selected 3x)**

Part 2:



Calculations:

Probabilities of Bowler combinations of 3 cases among the last 6 cases

123	0.01	Median	**0.006826125**
124	0.00835	Mean	0.006959051
125	0.00835		
126	0.00835		
134	0.00835		
135	0.00835		
136	0.00835		
145	0.00697225		
146	0.00697225		
156	0.00697225		
234	0.00668		
235	0.00668		
236	0.00668		
245	0.0055778		
246	0.0055778		
256	0.0055778		
345	0.0055778		
346	0.0055778		
356	0.0055778		
456	0.004657463		
Sum =	0.13918013		

Bowler & 1 Other MJ, last 6 | Bowler & 1 other MJ, all 7 | **p(Bowler selected 3x)**